

Reliable solutions for Iron and Steel Makers



Proven Technologies for Heavy Duty Process

ESP & Bag Filters

With Dry **ESP** (Electrostatic precipitator), direct high voltage is applied to charge particles suspended in the gas and collect them through electrostatic attraction.

- Customized system design
- Dura Trode (Discharge electrode)
- Compact design
- Top rapping (MIG: Magnetic impulse gravity impact)

Many **Bag filters** are installed to capture a dust occurred during transferring a coke (Bunker, mixer, crusher etc.). And a steam tracing is installed on the casing of bag filter and duct to prevent adhesion.



BAG FILTER

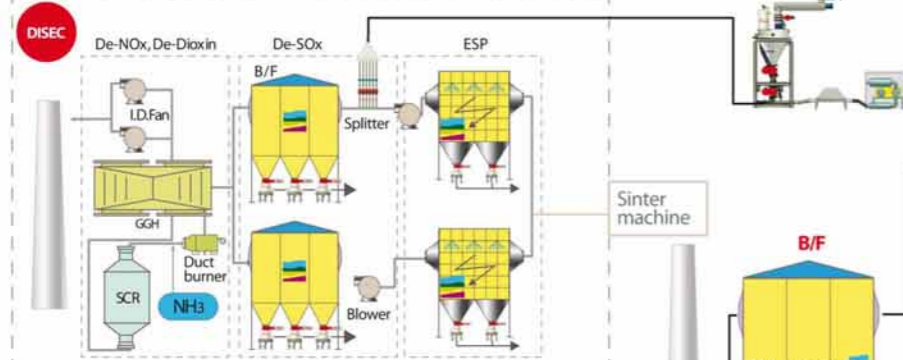
Sorb-n-Jet™ Technology

Nol-Tec directly injects sorbents such as hydrated lime, sodium bicarbonate, trona and powdered activated carbon into the gas ducts before the ESP or filters to reduce pollution as SO_x, HCl, HF, Dioxins and Mercury with a new technology.



SORBENT Unit for Pollutant Removal

Dry based Injection Sintering Emission Control



- Wide range temperature without decrease efficiency
- Simple control of chemical agent injection
- Safe from corrosion occurred from high acid dew point

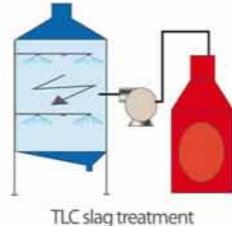
De-Tar ESP

To remove the Tar from pre-cleaned coke oven gas

- Vertical-round filters
- Collecting electrodes: Honeycomb type or Concentric circles
- Discharge electrodes: Stainless steel wire



De-Tar ESP



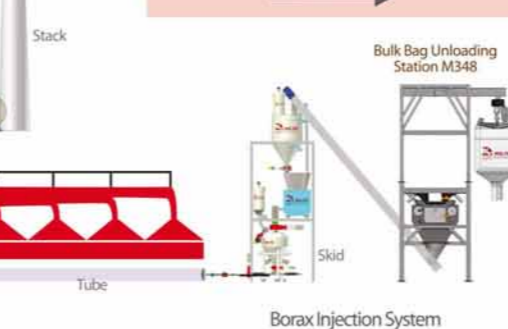
TLC slag treatment



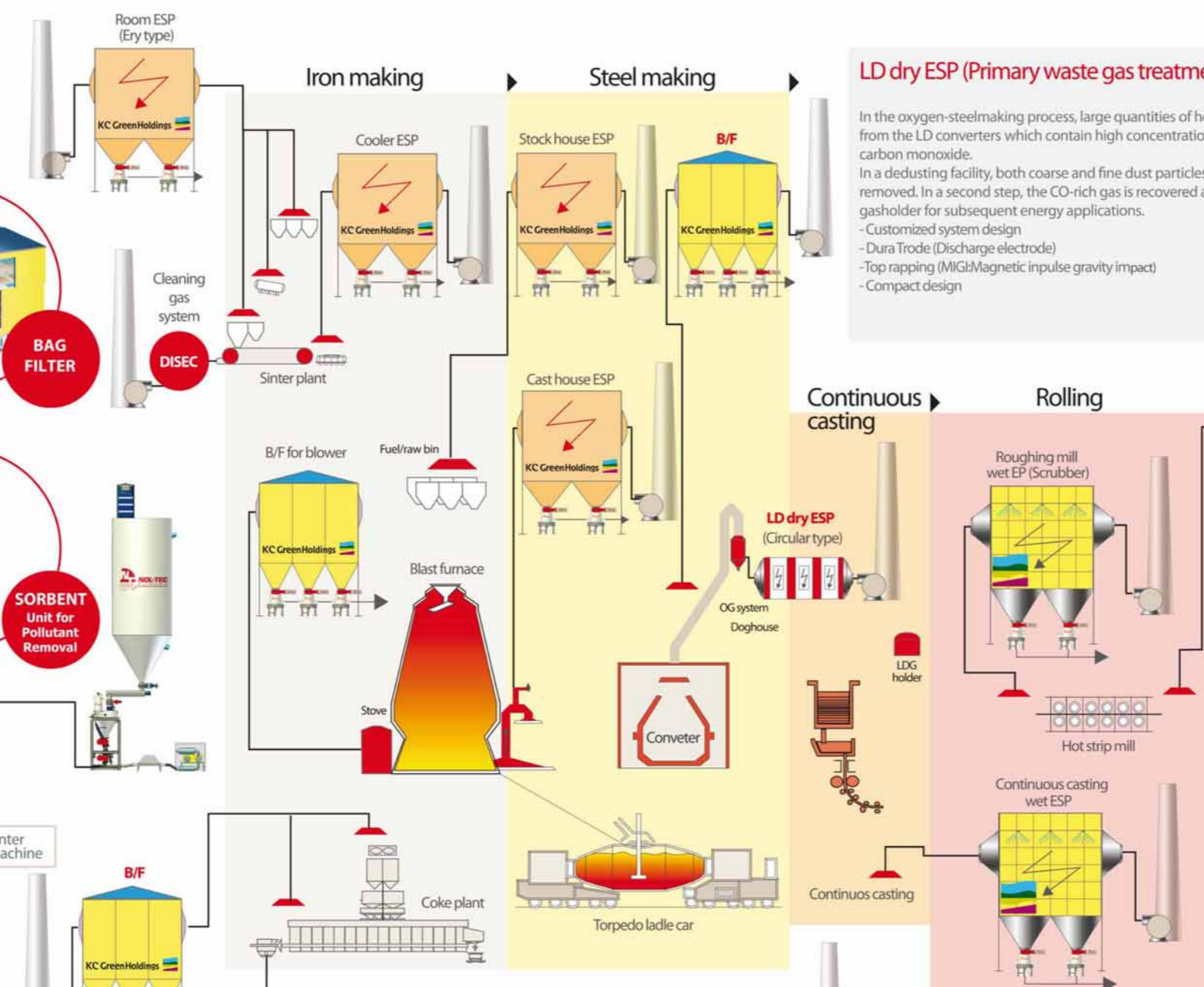
Storage and unloading



Filtering and dust handling



Borax Injection System



LD dry ESP (Primary waste gas treatment)

In the oxygen-steelmaking process, large quantities of hot gas are released from the LD converters which contain high concentrations of dust and carbon monoxide. In a dedusting facility, both coarse and fine dust particles are efficiently removed. In a second step, the CO-rich gas is recovered and stored in a gasholder for subsequent energy applications.

- Customized system design
- Dura Trode (Discharge electrode)
- Top rapping (MIG: Magnetic impulse gravity impact)
- Compact design

DeNO_x for APL (STL plant)

The main removing method of NO_x gas, that is created by Fuel burning processes, is using a reducing agent. This process converts NO_x into harmless gases N₂ and H₂O. The reducing agents usually are Anhydrous Ammonia, Aqueous Ammonia, Urea Solution. The injection amount and position are decided based on the De-NO_x method and removal efficiency.

- Safe reliable and compact design
- Flexible layout
- High efficiency

SCR&SNCR DESIGN available.

Dust Handling from ESP/BF

Nol-Tec has developed a unique technology to convey fly ash (and reacted products) from ESPs or Filters to storage silos. Nol-Tec Dense Phase Technology is used to convey reducing:

- Air consumption (reduction up to 20% using Air Mizer Technology)
- Wear of conveying pipeline (low velocity of the product inside pipeline).



MINIJET Dust with Ceramic Double Disc Valve

Wet ESP

Wet ESP has many similarities with the dry type unit in terms of principle and design. However a basic difference is that the wet type is used in environments where the gas temperature is at or below dew point. And it is used a washdown system using water or other liquids to remove deposits from the collecting plate instead of rapping system.

- Horizontal - Demister - Spray nozzle

Borax Injection

Nol-Tec Europe directly injects borax through the pipe with a dense batch transfer unit. Correct quantity for a right injection depends on length, diameter, thickness of the pipe.

- Homogeneous Injection/distribution in the pipe
- No dust dispersion in the ambient
- Accurate weighing system
- No lack of borax



BORAX Injection Skid



Research Centre

INNOVATION IN CONSTANT DEVELOPMENT

Nol-Tec Europe has a new Research Centre where several technologies can be tested, such as:

- low pressure dense phase pneumatic conveying
- vacuum dense and dilute phase
- pneumatic blending

The Research Centre is also equipped with:

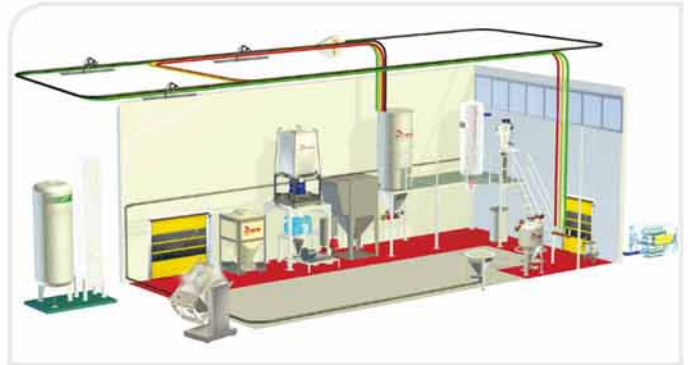
- unload and dosing of mobile container
- bulk bag unload

Nol-Tec performs tests of:

- conveyability
- degradation
- capacity
- segregation

of each product, as to have no problem during the plant start-up. The customer can really check how the product acts according to the different pneumatic conveying configurations. Moreover, the test, performed by skilled technicians, gives relevant indications to how each system should be designed and operated.

Test Plant (3D view)



Temporary On-Site Sorbent Injection

NTE portable configuration simulates full Sorb-N-Ject™ System functionality, but is designed on a smaller scale, usually contained in just two units.

The first unit holds and feeds the sorbent, the second unit is a semi-trailer housing the components that make the portable system operate.

This system is small but complete enabling on-site testing, fact finding, and adjustment prior to full-scale system design, installation and start-up.

WHY Use a Temporary System?

- Test effectiveness of various sorbents
- Determine proper injection locations
- Verify quantity of chemical required
- Provide temporary sorbent injection while permanent system is being installed
- Provide temporary injection as needed, such as during the ozone season.



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